OFFICE OF FUSION ENERGY SCIENCES

MISSION

This Office supports a broad scientific research program aimed at advancing plasma science, fusion science, and fusion technology--the knowledge base needed for an economically and environmentally attractive fusion energy source. This effort is carried out in the context of, and in cooperation with, an international fusion research effort. The Office develops programmatic budget priorities consistent with the strategic goals and objectives of the Fusion Energy Sciences program, the Office of Science and DOE.

FUNCTIONS

The Associate Director:

1. Develops plans for Fusion Energy Sciences Program.

2. Provides overall management direction for the Fusion Energy Sciences Program, with the ultimate goal for fusion energy, but with near-term emphasis on innovation and science.

3. Integrates the efforts of the Fusion Energy Sciences program elements, formulates program goals and objectives, and develops budgets all consistent with international collaboration, for achieving these objectives.

4. Provides program direction for system studies to determine research areas with high potential in advancing fusion energy prospects.

ITER and International Division

1. Provides overall management direction for the US programmatic effort involved with the ITER project, including development of US positions on issues, implementing organizations, and plans for needed resources.

2. Represents US interests, in coordination with other USG agencies, in all ITER working activities; supports Associate Director and Director of Science and other DOE officials in their ITER involvements.

3. Works with Director, Research Division, to ensure that the US research effort is appropriately supportive of the US ITER involvement and that the US ITER National Project Office is appropriately coordinating with the US research effort.

4. Formulates, coordinates, directs, and evaluates international cooperation activities, including development of the overall international technical exchange programs for U.S. involvement in international collaboration in fusion energy

sciences research; supports Research Division activities in directly funded international collaborative activities.

5. Provides the Executive Secretary or Program Coordinator for each U.S. Bilateral Agreement Coordinating Committee.

6. Oversees preparation, negotiation, completion, execution, and evaluation of formal cooperative agreements.

7. Represents the Office of Fusion Energy Sciences and, where appropriate, the Office of Science at DOE, U.S. Government, intergovernmental, and contractor meetings related to international fusion collaborative activities, and provides staff support to the Associate Director's participation in high level intergovernmental meetings.

Research Division

1. Provides direction to the major scientific experimental research programs exploring fusion physics issues on national user facilities.

2. Manages a diverse program of innovative concept research exploring novel confinement approaches, both for their contributions to fusion physics issues and for their intrinsic value as confinement concept improvements.

3. Provides program direction for fusion theory and advanced computation programs aimed at developing a fundamental understanding of the behavior of fusion plasmas.

4. Manages an ongoing scientific research effort in basic plasma physics as the critical core discipline which forms the cornerstone of fusion research.

5. Provides coordination of fusion energy sciences with related scientific activities. Jointly manages collaborative activities in basic plasma physics with other agencies such as National Science Foundation, the National Aeronautics and Space Administration, and the National Academy of Sciences.

6. Advances the development of the knowledge base for an inertial fusion energy source by exploring the science of heavy ion beams and associated high energy density phenomena.

7. Provides program direction and management overview of the operation of scientific facilities at laboratories and universities and provides technical overview of the design, procurement, installation, and checkout of project systems and hardware involved in upgrades to such facilities.

8. Provides program direction and management overview of major national construction projects, ensuring compliance with DOE, Federal and/or State policies and regulations on safeguards and security, emergency preparedness, quality assurance, and environment, health and safety.

9. Manages and directs the research and development of enabling technologies that will enable fusion researchers to maximize use of existing and planned fusion experiments and gain an experimental understanding of the behavior of fusion plasmas.

10. Provides program direction for research activities to develop low activation materials.

11. Manages and directs directly funded international collaborative projects. Coordinates with the ITER and International Division on policy, administration, and the research activities supporting the ITER National Project Office.

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